

CV: Mubariz Garayev

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Date of Birth: 01/01/1958,
Nationality: Azerbaijanian
Gender : Male

Department of Mathematics, College of Science,
King Saud University,
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UNIVERSITY EDUCATION

1984- 1987	PhD in Mathematics Leningrad Branch. Steklov Mathematical Institute (LBMI), (Saint Petersburg/Russia) Scientific Advisors: Prof. N.K.Nikolski and Prof.V.I.Vasyunin Thesis title : Addition of spectral multiplicities and invariant subspaces
1980-1983	M.S in Analysis , Leningrad Branch. Steklov Mathematical Institute (LBMI), (Saint Petersburg/Russia) Scientific Advisors: Prof. N.K.Nikolski .
1970-1974	B.S in Mathematics , Azerbaijan State University (Baku / Azerbaijan)

WORK EXPERIENCES

2012- present	Professor of Mathematics in the Department of Mathematics, College of Science, King Saud University.
2001 -2012	Professor, Department of Mathematics, Suleyman Demirel University, (Isparta/Turkey)
2011(March- July)	Visiting Professor, Department of Mathematics, Claude Bernard Lyon 1 University, (Lyon/ France)
1996-2001	Assoc.Prof., IMM Academy of Sciences of Azerbaijan, (Baku/ Azerbaijan)
1988-1996	Assistant Prof., IMM Academy of Sciences of Azerbaijan,(Baku/ Azerbaijan)

LANGUAGE SKILLS

Azerbaijani/Turkish : Native langue	English : Upper intermediate
German: Elementary	Russian : Upper intermediate

RESEARCH INTERESTS

Functional analysis, operator theory, complex analysis

Published Talks (Abstracts)

1. Karaev M.T. and Gürdal M., Some results for the weighted shift operators on the Banach spaces, International Conference Analysis and its applications (ICAA-08), India, November 3-5, sayfa , 2008.
2. Karaev, M.T., On the boundary behavior of Berezin Symbols, Mathematics Workshop Days, May 15-16, Istanbul Commerce University.
3. Karaev, M.T., On the Duhamel Algebras, ISAAC, 2009.Congress Imperial College London, July 13-18, 2009 .
4. Karaev,M.T. and Gurdal,M.,On some problems related with some special operator classes,21st International Workshop on Operator Theory and its Applications(IWOTA 2010),July 12-16,2010,TU Berlin,Germany.
5. Gurdal,M.andKaraev,M.T.,On some questions of operator theory,,21st International Workshop on Operator Theory and its Applications(IWOTA 2010),July 12-16,2010,TU Berlin,Germany.

Editorialship:

1. Advances in Linear Algebra and Matrix Theory.(Editor-in Chief)
2. Journal of Mathematical Sciences: Advances and Applications
3. International Journal of Mathematical Archive.
4. Journal of Mathematical Analysis.
5. Proceedings of IMM .

REFeree of the following journals:

1. Proc.Amer.Math.Soc.
2. Positivity
3. J.Math.Anal.Appl.
4. Opuscula Mathematica
5. ArapJ.Math.Sci.
6. BanachJ.Math.Anal.
7. Proc.IMM
8. AbstractAppl.Anal.
9. TurkishJ.Math.
10. NumericalFunct.Anal.Optimization.

THE MEMBER IN ANALYSIS GROUP IN DEPARTMENT OF
MATHEMATICS, COLLEGE OF SCIENCE, KSU.

Selected Recent Publications:

1. Karaev, M.T., Berezin symbols and Schatten-von Neuman classes, (Russian) *Matematicheskies Zametki*, 72(2002), 207-215.
2. Karaev, M.T., Mustafayev, H.S., On some properties of Deddens algebras, *Rocky Mountain. J. Math.*, 33(3)(2003), 915-926.
3. Karaev, M.T., Tuna, H., Description of maximal ideal space of some Banach algebra with multiplication as Duhamel product, *Complex variables: Theory and applications*, 49, no.6, (2004), 449-457
4. Karaev, M.T., Pehlivan, S., Some results for quadratic elements of a Banach algebra, *Glasgow Math. J.*, 46(3) (2004), 431-441.
5. Karaev, M.T., Closed ideals in C_1 with the Duhamel product as multiplication, *J. Math. Anal. Appl.*, 300(2)(2004), 297-302.
6. Karaev, M.T., New proofs of the Haagerup de Harpe inequality, *Math. Notes*, 75(5)(2004), 731-733. Translation from *Matem. Zametki*, 75(5)(2004), 787-788.
7. Karaev, M.T., Functional analysis proofs of Abel's theorems, *Proc. Amer. Math. Soc.*, 132(8)(2004), 2327-2329.
8. Karaev, M.T., The numerical range of a nilpotent operator on a Hilbert space, *Proc. Amer. Math. Soc.*, 132(8)(2004), 2321-2326.
9. Pehlivan, S., Karaev, M.T., Some results related with statistical convergence and Berezin symbols, *J. Math. Anal. Appl.*, 299(2)(2004), 333-340.
10. Karaev, M.T., Saltan, S., Some results on Berezin symbols, *Complex variables: Theory and applications*, 50, no.3, (2005), 185-193
11. Karaev, M.T., Saltan S., A Banach algebra structure for Wiener algebra $W(D)$ of the disc, *Complex variables: Theory and applications*, v.50, no 4 (2005), 299-305.
12. Karaev, M.T., Invariant subspaces, cyclic vectors, commutant and extended eigenvectors of some convolution operators, (English) *Methods of Functional Analysis and Topology*, v.11, n1(2005), 48-59.
13. Karaev, M.T., On some applications of the ordinary and extended Duhamel products, *Siberian Mathematical Journal*, 46(3)(2005), 431-442.
14. Karaev, M.T., On some problems related to Berezin symbols, *Comptes Rendus Acad. Sci. Paris Ser I*, 340(2005), 715-718.
15. Karaev, M.T., Corrigendum to "On the Spectral Multiplicity of a Direct Sum of Operators, *Colloquium Mathematicum*, 104(1)(2006), 105-112:", *Colloq. Math.*, 106(2); 2006; p.325:
16. Karaev, M.T., On the Spectral Multiplicity of a Direct Sum of Operators, *Colloquium mathematicum*, 104(1)(2006); 105 - 112:
17. Karaev, M.T., On extended eigenvalues and eigenvectors of some operator classes, *Proc. Amer. Math. Soc.*, 134(2006), 2383-2392.
18. Karaev, M.T., New proof of Nagnibida's theorem, *J. Function Spaces and Applications*, 4(2006), 85-90.
19. Karaev, M.T., Tuna H., On some applications of Duhamel product, *Linear and multilinear algebra*, 54(4)(2006), 301-311.
20. Karaev, M.T., Berezin Symbol and Invertibility of Operators on the Functional Hilbert spaces, *Journal of Functional Analysis*, 238(2006), 181-192.
21. Karaev, M.T., On estimate for numerical radius of some contractions, *Ukrainian Mathematical Journal*, 58(10)(2006), 1512-1516.

22. Karaev, M.T., On the proof of Beurling's theorem on z -invariant subspaces, *Expositiones Mathematicae*, 25(2007), 265-267.
23. Karaev, M.T., Banach Algebra Technique for Proving an Addition Formula for Spectral Multiplicities of Sets of Operators, *Functional Analysis and Its Applications*, 41(1)(2007), 76-78.
24. Karaev, M.T., On Beurling-Arveson type theorem for some functional Hilbert spaces and related questions, *Integral Equat. Oper. Theory*, 62(1)(2008), 77-84.
25. Karaev, M.T., On the Riccati equations, *Monatshefte für Mathematik*, 155(2)(2008), 161-166.
26. Karaev, M.T., Banach Algebra Techniques for spectral multiplicity, *Archiv der Math.*, 93(2009), 147-152.
27. Karaev, M.T., e -convergence and related problem, *Comptes Rendus Mathematique*, 348(2010), 1059-1062.
28. Karaev, M.T., On the numerical radius of some C_0 contractions, *Linear Algebra and its Applications*, 431(5-7)(2009), 818-822.
29. Karaev, M.T., Iskenderov, Numerical range and numerical radius for some operators, *Linear Algebra and its Applications*, 432(2010), 3149-3158.
30. Karaev, M.T., Zeltser, M., On Abel convergence of double sequences, *Numerical Functional Analysis and Optimization*, 31(2010), 1185-1190.
31. Karaev, M.T., Gürdal, M., Saltan, S., Some applications of Banach algebra techniques, *Math. Nachrichten*, 284(2011), 1678-1689.
32. Karaev, M.T., Gürdal, M., Strongly splitting weighted shift operators on Banach spaces and unicellularity, *Operators and Matrices*, 1(2011), 157-171.
33. Karaev, M.T., Domination conditions and spectral multiplicity of operators, *Acta Math. Hungarica*, 134(2012), 79-98.
34. Karaev, M.T., A characterization of some function classes, *J. Function Spaces and Applications*, ArticleID 796798, 1-5, 2012.
35. Karaev, M.T., Use of reproducing kernels and Berezin symbols technique in some questions of operator theory, *Forum Math.* (to appear).
36. Ash, J.M., Karaev, M.T., On the boundary behavior of special classes of C^∞ - functions and analytic functions, *International Math. Forum*, 7(2012), n.4., 153 -166.
37. Chalendar, I., Fricain, E., Gürdal, M., and Karaev M.T., Compactness and Berezin symbols, *Acta Sci. Math. (Szeged)*, 78 (2012), no. 1-2, 315–329.
38. Gürdal, Mehmet; Garayev, Mübariz T.; Saltan, Suna Some concrete operators and their properties. *Turkish J. Math.* 39 (2015), no. 6, 970–989.
39. Guediri, Hocine; Garayev, Mubariz T.; Sadraoui, Houcine The Bergman space as a Banach algebra. *New York J. Math.* 21 (2015), 339–350
40. Garayev, Mubariz T. Two applications of the Nordgren-Rosenthal theorem. *Numer. Funct. Anal. Optim.* 36 (2015), no. 7, 856–866
41. Gürdal, Mehmet; Garayev, Mübariz T.; Saltan, Suna; Yamanci, Ulaşdist -formulas and Toeplitz operators. *Ann. Funct. Anal.* 6 (2015), no. 1, 221–226.
42. Gürdal, M.; Garayev, M. T.; Saltan, S.; Yamanci, U. On some numerical characteristics of operators. *Arab J. Math. Sci.* 21 (2015), no. 1, 118–126.
43. Karaev, Mubariz T.; Saltan, Suna; Kunt, Tevfik Discrete Duhamel product, restriction of weighted shift operators and related problems. *New York J. Math.* 20 (2014), 831–843.

44. Gürdal, M.; Garayev, M. T.; Saltan, S. Basisity problem and weighted shift operators. *Acta4Math. Sci. Ser. B Engl. Ed.* 34 (2014), no. 5, 1655–1660.
45. Karaev, Mubariz T.; Gürdal, Mehmet; Yamancı, Ulaş Some results related with Berezin symbols and Toeplitz operators. *Math. Inequal. Appl.* 17 (2014), no. 3, 1031–1045
46. Karaev, Mubariz T. Erratum: Use of reproducing kernels and Berezin symbols technique in some questions of operator theory [Forum Math., DOI 10.1515/FORM.2011.073]]. *Forum Math.* 25 (2013), no. 5, 1107.
47. Karaev, M. T. Reproducing kernels and Berezin symbols techniques in various questions of operator theory. *Complex Anal. Oper. Theory* 7 (2013), no. 4, 983–1018.
48. Karaev, Mubariz T. Tauberian-type theorem for (e) -convergent sequences. *C. R. Math. Acad. Sci. Paris* 351 (2013), no. 5-6, 177–179
49. Karaev, Mubariz T.; Iskenderov, Nizameddin Sh. Berezin number of operators and related questions. *Methods Funct. Anal. Topology* 19 (2013), no. 1, 68–72
50. Karaev, Mübariz Tapdigoğlu; Gürdal, Mehmet; Yamancı, Ulaş Special operator classes and their properties. *Banach J. Math. Anal.* 7 (2013), no. 2, 74–85.
51. Gürdal, M., Yamancı, U., and Garayev, M., Some results for operators on a model space, *Frontiers of Mathematics in China*, 13 (2018), no. 2, 287–300.
52. Altwaijry, N., Baazeem, A.S., and Garayev, M., Distance estimates, norm of Hankel operators and related questions, *Operators and Matrices*, 12 (2018) no. 1, 157--168.
53. Karaev, M.T., Duhamel Algebras and Applications, *Funktsional. Anal. iPrilozhen.*, 52 (2018), no. 1, 3–12.
55. Garayev, M.T., Gürdal, M. and Tilki Havva, On some Deddens subspaces of Banach algebras, *Filomat*, in press, 2018.
56. Gürdal M. and Garayev, M.T., Remarks on the zero Toeplitz product problem in the Bergman and Hardy spaces, *Turkish journal of Mathematics*, in press, 2018.
57. Garayev, Mubariz T. Berezin symbols, Hölder-McCarthy and Young inequalities and their applications. *Proc. Inst. Math. Mech. Natl. Acad. Sci. Azerb.* 43 (2017), no. 2, 287--295.
58. Garayev, Mubariz T.; Gürdal, Mehmet; Saltan, Suna Hardy type inequaltiy for reproducing kernel Hilbert space operators and related problems. *Positivity* 21 (2017), no. 4, 1615--1623.
59. Garayev, M. T.; Gürdal, M.; Yamancı, U. Berezin symbols and Borelsummability. *Quaest. Math.* 40 (2017), no. 3, 403--411.
60. Yamancı, U., Gürdal, M. and Garayev, M. T., Berezin Number Inequality for Convex Function in Reproducing Kernel Hilbert Space, *Filomat*, 31 (2017), no. 18, 5711--5717.
61. Garayev, Mubariz T.; Gürdal, Mehmet; Yamancı, Ulaş Description of Bloch spaces, weighted Bergman spaces and invariant subspaces, and related questions. *Kuwait J. Sci.* 43 (2016), no. 3, 70--77.

62. Gürdal, Mehmet; Garayev, Mübariz T.; Değer, Hasret Berezin symbols and Abel convergence of sequences and series. *Proc. Rom. Acad. Ser. A Math. Phys. Tech. Sci. Inf. Sci.* 17 (2016), no. 3, 203--209.
63. Garayev, M. T.; Guediri, H.; Sadraoui, H. On some problems in the space $C(n)[0,1]$. *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* 78 (2016), no. 1, 147--156.
64. Garayev, Mubariz T.; Gürdal, Mehmet; Okudan, Arzu Hardy-Hilbert's inequality and power inequalities for Berezin numbers of operators. *Math. Inequal. Appl.* 19 (2016), no. 3, 883--891.
65. Garayev, Mubariz T.; Guediri, Hocine; Sadraoui, Houcine Applications of reproducing kernels and Berezin symbols. *New York J. Math.* 22 (2016), 583--604.
66. Karaev, Mubariz T.; Gürdal, Mehmet; Huban, Mualla Birgül Reproducing kernels, English algebras and some applications. *Studia Math.* 232 (2016), no. 2, 113--141.
67. Gürdal, Mehmet; Garayev, Mübariz T.; Saltan, Suna Some concrete operators and their properties. *Turkish J. Math.* 39 (2015), no. 6, 970--989.
68. Garayev, Mubariz T. The Berezin number, norm of a Hankel operator and related topics. *Operator algebras and mathematical physics*, 87--100, *Oper. Theory Adv. Appl.*, 247, Birkhäuser/Springer, Cham, 2015.
69. Guediri, Hocine; Garayev, Mubariz T.; Sadraoui, Houcine The Bergman space as a Banach algebra. *New York J. Math.* 21 (2015), 339--350.
70. Garayev, Mubariz T. Two applications of the Nordgren-Rosenthal theorem. *Numer. Funct. Anal. Optim.* 36 (2015), no. 7, 856--866.
71. Gürdal, Mehmet; Garayev, Mübariz T.; Saltan, Suna; Yamanci, Ulaş dist-formulas and Toeplitz operators. *Ann. Funct. Anal.* 6 (2015), no. 1, 221--226.
72. Gürdal, M.; Garayev, M. T.; Saltan, S.; Yamanci, U. On some numerical characteristics of operators. *Arab J. Math. Sci.* 21 (2015), no. 1, 118--126.
73. M.T.Karaev, Duhamel algebras and applications, *Funct. Anal. Applications*, 2018.
74. M.T.Garayev, H.Guediri and H.Sadraoui, New characterizations of Bloch spaces, Bers-type and Zygmund-type spaces and related questions, *Ufa Math.J.*, 10(2018), 131-141.
75. M.T.Garayev, M.Gurdal, U.Yamanci, B.Halouani, Boundary behavior of Berezin symbols and related results, *Filomat*, 33:14(2019), 4433-4440.
76. F.Bouzeffour, M.T.Garayev, Duhamel convolution product in the setting of quantum calculus, *Ramanujan J.*, 46(2018), 345-356.
77. M.T.Garayev, U.Yamanci, Chebyshev type inequalities and power inequalities for the Berezin number of operators, *Filomat*, 33:8(2019), 2307-2316.
78. Ulaş Yamanci, Mubariz T. Garayev and Ceren Çelik , Hardy–Hilbert type inequality in reproducing kernel Hilbert space: its applications and related results, *LINEAR AND MULTILINEAR ALGEBRA* 2019, VOL. 67, NO. 4, 830-842.
79. M.T.Garayev, H.Guediri, M.Gurdal, G.Alsahli, On some problems for operators on the reproducing kernel Hilbert space, *LINEAR AND MULTILINEAR ALGEBRA*
<https://doi.org/10.1080/03081087.2019.1659220>

80. M.T. GARAYEV , M. GURDAL , Remarks on the zero Toeplitz product problem in the Bergman and Hardy spaces,42(2018),1504-1508.

81. M. Bakherad and M.T. Garayev, Berezin number inequalities for operators,6(2019),33-43.

Very recent publications :

On the Essential Norm Formulas for Some Operators MT Garayev Complex Analysis and Operator Theory 17 (2), 23	2023
Some applications of the -Duhamel product M Gürdal, M Garayev, R Tapdigoglu, M Altıntaş The Journal of Analysis, 1-16	2022
On the fractional Bessel operator F Bouzeffour, M Garayev Integral Transforms and Special Functions 33 (3), 230-246	2022
On some problems for reproducing Kernel Hilbert space operators via the Berezin transform MT Karaev, R Tapdigoglu Mediterranean Journal of Mathematics 19, 1-16	2022
Berezin symbol inequalities via Grüss type inequalities and related questions R TAPDIGOĞLU, M GARAYEV, N Altwaijry Turkish Journal of Mathematics 46 (3), 991-1003	2022
On hyponormality of Toeplitz operators H Sadraoui, M Garayev, H Guediri Rocky Mountain Journal of Mathematics 51 (5), 1821-1831	2021
Reverse inequalities for the Berezin number of operators M Garayev, H Guediri, N Altwaijry arXiv preprint arXiv:2109.09012	2021
On some problems for operators on the reproducing kernel Hilbert space MT Garayev, H Guediri, M Gürdal, GM Alsahli Linear and Multilinear Algebra 69 (11), 2059-2077	2021
Inequalities for the Berezin number of operators and related questions MT Garayev, MW Alomari Complex Analysis and Operator Theory 15, 1-30	2021
Fractional supersymmetric quantum mechanics and lacunary Hermite polynomials F Bouzeffour, M Garayev Analysis and Mathematical Physics 11, 1-16	2021
The Hartley Transform Via Susy Quantum Mechanics F Bouzeffour, M Garayev Memoirs on Differential Equations and Mathematical Physics 83, 31-41	2021
Some applications of Berezin θ -sequences and Berezin symbols N Altwaijry, M Garayev, A Baazeem Filomat 35 (11), 3703-3712	2021
On hyponormality on a weighted annulus	2021

H Sadraoui, B Halouani, MT Garayev Open Mathematics 19 (1), 1510-1516	
Multiple big -Jacobi polynomials F Bouzeffour, M Garayev Bulletin of Mathematical Sciences 10 (02), 2050013	2020
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Some inequalities involving Berezin symbols of operator means and related questions M Garayev, S Saltan, F Bouzeffour, B Aktan Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie ...	2020
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On the Zeros of the Big q -Bessel Functions and Applications F Bouzeffour, H Ben Mansour, M Garayev Mathematics 8 (2), 237	2020
Refinements of Kantorovich type, Schwarz and Berezin number inequality M Garayev, F Bouzeffour, M Gürdal, CM Yangoz Extracta mathematicae 35 (1), 1-20	2020
Skew-symmetric and essentially unitary operators via Berezin symbols N Altwaijry, M Garayev, H Guediri, A Baazeem Open Mathematics 18 (1), 1760-1770	2020
Hardy–Hilbert type inequality in reproducing kernel Hilbert space: its applications and related results U Yamancı, MT Garayev, C Çelik Linear and Multilinear Algebra 67 (4), 830-842	2019
Some properties and applications of convolution algebras MT Garayev Adv. Mathem. Models Appl 4 (3), 188-197	2019
Čebyšev's type inequalities and power inequalities for the Berezin number of operators MT Garayev, U Yamancı Filomat 33 (8), 2307-2316	2019
Boundary behavior of Berezin symbols and related results MT Garayev, M Gürdal, U Yamancı, B Halouani Filomat 33 (14), 4433-4439	2019
Berezin number inequalities for operators M Bakherad, MT Garayev Concrete Operators 6 (1), 33-43	2019